

instead utilize the term "comprises" and to write the Markush grouping in a more traditional way. It is believed that this change overcomes the rejection.

Claims 1-15 were rejected under 35 USC 112, first paragraph, as allegedly being non-enabling for the reasons set forth on pages 2-3 of the action. Although applicants disagree with the statements in the office action regarding the "critical or essential" features of the invention, in an effort to expedite the allowance of this application, claim 1 has been amended to recite that the plastic film is oriented and that it is cold laminated to the paper layer. Accordingly, this rejection should be withdrawn.

The claims were also rejected for obviousness-type double patenting over the applicants' prior US patent no. 6,235,386B1. In response, a terminal disclaimer, with fee provision, is submitted herewith to overcome this rejection.

Claims 1-15 were rejected over U.S. patents 4,351,877 or 4,557,971 to Williams in further view of 4,636,427 to Ohno et al. ("Ohno") for the reasons set forth on pages 3-5 of the action. Applicants traverse the rejection for the reasons that follow.

The present claims are directed to a tape product comprising a paper-plastic film laminate made of a paper layer that is adhesively cold laminated to a water-impermeable oriented plastic film layer. The plastic film has a surface that is subjected to a corona-discharge treatment prior to being adhesively cold laminated to the paper layer to form the laminate. A pressure-sensitive adhesive coating is applied to an outer surface of the laminate, i.e., either the exposed surface of the paper layer or the outer surface of the plastic film layer.

It is important to recognize that the term "pressure sensitive adhesive" is a term of art that is used to define a dry adhesive made of an organic material such as rubber, vinyl rubber, polyvinylether, polyvinyl butyral, polybutylene or acrylic. No organic or aqueous liquid is required or necessary to activate this adhesive, and the simple application of pressure is all that is needed to adhere the laminate to a substrate. Also, when the tape product is collected onto a roll, the adhesive bearing surface does adhere to the other surface of the laminate that it contacts. While in some cases, this would be acceptable, it is often desirable to apply a release agent to the latter surface to minimize adherence of the adhesive bearing surface thereto and to facilitate dispensing of the tape product from the roll. The release agent can be a silicone or it can be a plastic film surface that is not treated by corona discharge.

The Williams '877 patent discloses a laminate of a pre-stretched and oriented plastic film that is joined to a carrier layer of Kraft or other paper by 'any adhesive as is commonly used for gluing plastic films to paper, as is known in the art' (col. 3, lines 24-26). There is no

disclosure of the type of adhesive that could be used for this purpose, and there is no specific mention of a water-based adhesive or of a cold laminating process for adhering the film to the paper layer. In addition, the patent further discloses that the plastic film provides "virtually all the necessary strength" of the tape, while the paper layer is used "only as a medium to 'carry' the a water-soluble adhesive that otherwise could not be applied to the plastic layer and to provide the longitudinal rigidity to permit the tape to be dispensed (col. 3, lines 30-36).

In contrast, the present invention includes a number of structural differences. The treatment of the plastic film surface by corona discharge activates that surface to render it receptive to adhesives. Thus, in applicants' invention, the activated plastic film surface can be adhesively cold laminated to the paper layer, and can receive the pressure sensitive adhesive, if desired. Williams '877 notes that the plastic film cannot receive a water-soluble adhesive, so that there would be no suggestion in the Williams '877 patent to put any adhesive on the exposed surface of the plastic film.

Furthermore, the type of adhesive that is used to laminate the plastic film to the paper layer is important in order to retain in the laminate the properties and strength of the oriented film. Notably, Williams '877 is silent on this type of adhesive, but he does recognize that a water-based adhesive cannot be applied to the plastic layer. Thus, Williams '877 must have used hot melt or reaction curable adhesives as these would adhere to the plastic film. Those types of adhesives, however, affect the properties of oriented film and also present problems in laminating the materials together, since the oriented film could relax while waiting for the hot melt or reaction curable adhesives to set or cure. In addition to a loss of strength, the final product is often warped or curled. Thus, the Williams '877 patent is not relevant to the presently claimed invention.

The Williams '971 patent also acknowledges the deficiencies of the Williams '877 patent. In fact, it mentions that the tape of the Williams '877 patent has the problem of lack of adherability of the adhesive containing surface to the outer plastic film surface when the film is overlapped onto itself (see col. 1 line 67 to col. 2, line 4). Thus, the Williams '971 patent is directed to the use of a permeable layer, such as paper, that is laminated to the plastic film layer by an adhesive. This adhesive layer is again described as any adhesive as is commonly used for gluing plastic films to paper, as is known in the art. As in the Williams '877 patent, this is not a disclosure of a water-soluble adhesive that can be used to cold laminate an energized plastic film surface to a paper layer. Again, the "prior art" adhesives can lead to previously noted problems of strength loss and warpage of the final product.

Also, there is no disclosure that a pressure sensitive adhesive can be applied to the plastic film as in the present invention. Again, it is important to utilize a corona discharge treatment to activate the surface of the plastic film prior to applying the water-soluble adhesive thereto and cold laminating the plastic film to the paper layer as well as prior to the application of the pressure sensitive adhesive to the outer surface of the plastic film.

The Examiner's belief that it was known in the art to utilize a corona discharge treatment to improve the surface energy of a plastic film is correct, but the recognition of conducting this step immediately prior to the application of the adhesive is not clearly taught by any prior art reference. Instead, it is applicants who have discovered the benefits in adhesion that are achieved by subjecting the surface of the plastic film to a corona discharge treatment prior to the application of the water-based adhesive. Moreover, applicants submit that others in the art were not aware of the importance of this step and cite the later issued Williams patents as failing to recognize the advantages in obtained by using this step.

The Ohno patent is directed to a multi-layer tape product that includes two plastic films and a fabric layer. The plastic layers are adhered to the fabric base by heating the films to over 300°C and then extrusion laminating the heated film to the fabric base. After forming the laminate, a pressure sensitive adhesive is applied to the outer exposed surface of the fabric or one of the plastic layers. While Ohno does disclose the use of a corona discharge treatment, it is only onto the fabric base or a non-oriented plastic layer. Furthermore, in Ohno, it is the fabric layer, rather than the plastic layer, that provides strength to the laminate. If the plastic films provided strength, then the resulting laminates would be stiff and not have the necessary feel to imitate a fabric.

Also, in each case where a plastic layer is used, it is heated as noted above and then subjected to extrusion calendaring for adherence to the fabric base to form the laminate. Thus, the plastic layer cannot be stretched and oriented in the Ohno laminates because the heating step would deleteriously affect the strength properties of such an oriented film or layer. Moreover, even if the plastic layer is somehow stretched while hot, it would likely shrink while cooling to cause warp in the final laminate. This cannot be tolerated in a tape product according to the present invention.

For all these reasons, the Ohno patent is non-analogous art compared to the Williams patents and is not properly combinable except upon a hindsight reconstruction of the prior art using applicants' specification as a template or guide. The Court of Appeals for the Federal Circuit has recognized in many decisions that this procedure is inappropriate for formulating

prior art rejections. In addition, Ohno has no paper layers in his laminates and does not utilize cold lamination of plastic films to paper utilizing a water soluble adhesive. In view of all of the above, the rejection based on the combination of the Williams and Ohno patents has been overcome and should be withdrawn.

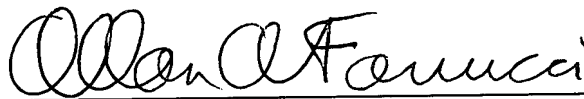
Applicants submit that the entire application is now in condition of allowance, early notice of which would be appreciated. Should the Examiner not agree with the Applicants' position, then a personal or telephonic interview is respectfully requested to discuss any remaining issues and expedite the eventual allowance of the application.

No fee is believed to be due for this submission. Please any required fees to Winston & Strawn Deposit Account No. 501-814.

Respectfully submitted,

Date: \_\_\_\_\_

9/18/02



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## APPENDIX A - MARKED-UP CLAIM AMENDMENTS

Claims 1, 5, 7, 8, 14 and 15 are amended as follows:

1. (amended) A paper-plastic film laminate pressure sensitive sealing tape product for adhering to various items in applications involving taping and sealing and having sufficient body to permit dispensing from a conventional pull and tear tape dispenser, the tape product comprising: a paper layer; a water-impermeable oriented plastic film layer having a first corona-discharge treated surface, wherein the first corona-discharge treated surface is adhesively cold laminated to the paper layer to form a paper-plastic film laminate having first and second opposed outer surfaces; and a layer of a pressure-sensitive adhesive coating on one of said first and said second outer surfaces, said pressure-sensitive adhesive coating exposed for use in adhering the paper-plastic film laminate to the various items, wherein the plastic film layer has a strength sufficient to allow the film to be stripped in one piece from an item to which the laminate is adhered.

5. (amended) The tape product of claim 1 wherein the [plastic film is an] oriented plastic film [comprising] comprises a polymer selected from the group consisting of polypropylene, polyethylene and polyester, and wherein the paper layer comprises Kraft paper.

7. (amended) The tape product of claim 6 wherein the water-based adhesive [includes] comprises a copolymer selected from the group consisting of an acrylic copolymer composition [or] and a polyvinyl acetate copolymer.

8. (amended) The tape product of claim 1 wherein the pressure-sensitive adhesive [includes] comprises an adhesive selected from the group consisting of a rubber, a vinyl rubber, a polyvinyl ether, a polyvinyl butyral, a polyisobutylene or an acrylic.

14. (amended) The tape product of claim 1 wherein the oriented plastic film layer comprises first and second opposed surfaces, wherein both said first and said second plastic film layer surfaces are corona discharge treated, wherein one said corona discharge surface is adhesively cold laminated to said paper layer and wherein the remaining, unlaminated surface of said plastic film layer is provided with a layer of a release agent.

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15. (amended) The tape product of claim 1 wherein [said water impermeable] the oriented plastic film layer further comprises a second surface, opposed to said first, corona-discharge treated surface, and wherein said second surface is not corona discharge treated to prevent adhesion to an adjacent overlapping layer of the tape product when said tape product is wound on a pull and tear tape dispenser.